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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,550	12/29/2000	Ritesh Trivedi	42390P10725	1451

7590

08/22/2002

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP
Seventh Floor
12400 Wilshire Boulevard
Los Angeles, CA 90025-1026

EXAMINER

MAI, SON LUU

ART UNIT

PAPER NUMBER

2818

DATE MAILED: 08/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/752,550

Applicant(s)

TRIVEDI ET AL.

Examiner

Son Mai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

1. The amendment filed on 06-24-02 has been entered. Accordingly, claims 1-20 have been canceled and claims 21-30, 32-46 have been added to the application. However, claims 32-46 must be renumbered consecutively as required by 37 C.F.R. 1.126, thus claims 32-46 have been renumbered to 31-45.

Oath/Declaration

2. The supplemental declaration filed on 01-24-02 is accepted.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 21-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As for claim 21, the recitation "the first drain bias" in line 5 lacks antecedent basis in the claim. It appears the Applicants refer to the first drain bias circuit in line 2.

As for claim 23, the recitations "the first drain bias" (line 1) and "the drain bias" (line 3) lack antecedent basis. Further, the recitation "a voltage potential of a supply voltage" (line 2) should read --the voltage potential of the supply source—because this step has been cited in claim 21.

As for claim 24, "said high performance transistor" (line 1) lacks antecedent basis.

As for claim 26, what is "an s' device"? The device must be defined.

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As for claims 22-29, the claims are rejected for incorporating the limitations of claim 21.

5. Claims 30-37 and 45 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. In claim 30, the structural cooperative relationships of the kicker device and the semiconductor device are omitted. Further, "a supply voltage" in line 3 should read --a supply source--to be consistent with the subject matter of claim 35.

As for claim 32, "the enable pulse" in line 1 lacks antecedent basis. It should be changed to read -- the enable signal pulse--.

As for claim 35, "the kicker" in line 1 lacks antecedent basis. It should be changed to read -- the kicker device--. And "a supply source" in line 2 should read --the supply source--because the supply source has been mentioned in claim 30.

As for claim 45, "the first drain bias circuit" lacks antecedent basis. It should read --the drain bias circuit--.

As for claim 31-37 and 45, the claims are rejected for incorporating the limitations of claim 30.

6. Claims 38-43 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See

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MPEP § 2172.01. In claim 38, the structural cooperative relationships of the kicker device and the semiconductor device are omitted. Further, "a supply voltage" in line 6 should read --a supply source--to be consistent with the subject matter of claim 43.

As for claim 40, "the enable pulse" in line 1 lacks antecedent basis. It should be changed to read -- the enable signal pulse--.

As for claim 43, "the kicker" in line 1 lacks antecedent basis. It should be changed to read -- the kicker device--. And "a supply source" in line 2 should read --the supply source--because the supply source has been mentioned in claim 38.

As for claims 39-43, the claims are rejected for incorporating the limitations of claim 38.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 21-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Campardo et al. (U.S. Patent 5,805,500).

Regarding claim 21, Campardo et al. disclose in figures 7 and 8, a method comprising: providing an electrical pulse (ATD pulse) to a first drain bias circuit (56 in figure 7) for a first non-volatile memory cell (4); in response to the electrical pulse: pulling a voltage of the first drain bias circuit towards a voltage potential (Vcc) of a

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supply source (line 15); and shorting a sense node (node 16) for the non-volatile memory cell to a reference node (node 17).

Regarding claim 22, the first non-volatile memory cell (4 in figure 8) is a flash memory cell.

Regarding claim 23, Campardo et al. teach the method wherein pulling a voltage of the first drain bias circuit towards a voltage potential (V_{cc}) of a supply source comprises enabling a first kicker device (60 in figure 8) coupled to the first drain bias circuit (56 in figure 7) for the first non-volatile memory cell.

Regarding claims 25 and 26, Campardo et al. teach that shorting the sense node (16 in figure 8) to the reference node (17 in figure 8) comprises enabling a semiconductor device (transistor 62) coupled between the sense node and the reference node.

Regarding claim 27, Campardo et al. teach that the electrical pulse (ATD pulse) is provided prior to sensing the contents of said first non-volatile memory cell (column 9, lines 10-26).

Regarding claim 28, Campardo et al. show in figures 7 and 8, the method comprising enabling a second kicker device (61) for a second drain bias circuit (included in biasing circuit 56 in figure 7) for a memory cell included in a reference array (shown in figure 1). The voltage of the first drain bias circuit and the voltage of the second drain bias circuit are pulled towards the same voltage potential (V_{cc}).

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Regarding claim 29, Campardo et al. show in figure 8, the first drain bias comprising a cascode amplifier (with biasing circuit 71 in series with the kicker device 60).

Regarding claims 30-33, 35-41 and 43-45, the above rejection is applicable to them and thus such claims are anticipated by Campardo et al.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 24, 34 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Campardo et al. (U.S. Patent 5,508,500).

Campardo et al. teach the method as claimed in claims 24, 34 and 42 except the kicker transistor is a P-channel transistor. Campardo et al. also teach the kicker transistor (60 or 61 in figure 8) is an N-channel transistor. As is well known in the semiconductor device art, there are two types of transistors: P-channel and N-channel. Therefore it would have been obvious to one of ordinary skill in the art to substitute one type for the other because depending on the available active logic levels of high or low, one should select a P-channel or an N-channel transistor.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son Mai whose telephone number is 703-305-3497. The examiner can normally be reached on 7:00 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 703-308-4910. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7724 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

08-14-02


Son Mai
Examiner
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